

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested. No claims having been cancelled, the Applicant respectfully submits that claims 26-29 and 32 are properly under consideration in this application.

The drawings stand objected for failing to comply with 37 C.F.R. § 1.84(p)(5) because they do not include reference signs. In particular, the Examiner asserts that Figs. 1-3 are not disclosed within the specification. Applicant respectfully points the Examiner to page 8, starting at lines 25-33, which provides descriptions of Figs. 1-3. The description of Fig. 1 has been modified to reflect the formal drawings attached hereto which provide detail regarding construction of the coextrusion flow plate.

The drawings are also objected to as failing to comply with 37 C.F.R. § 1.84(p)(5) because they include reference signs not mentioned in the description. In particular, Fig. 4 is noted as including parts labeled 7 and 28. The Examiner is respectfully directed to page 21 of the specification, lines 23-24, in which part 28 is identified as a nip roll. With respect to part 7, the third paragraph on page 21 has been amended to reference nip roll 7 which performs the same purpose in Fig. 4 as the corresponding nip roll 28 in Fig. 4C. Applicant respectfully submits that the submission of the formal drawings herewith and the noted amendments to the specification are sufficient to overcome all objections to the drawings and respectfully requests that these objections be withdrawn.

In the specification, Applicant respectfully submits that the above amendments to the Abstract are sufficient to comply with the current rules.

Claim 29 stands rejected under 35 U.S.C. § 112 with respect to the recitation of "said A layer" in line 25. It is respectfully submitted that the amendment to claim 29 indicated above is sufficient to remove this rejection and Applicant respectfully requests that it be withdrawn.

Claims 26-29 stand rejected under 35 U.S.C. § 103(a) over Langley (U.S. Pat. No. 5,560,974). The applicant respectfully asserts that the Examiner's application of Langley to the present invention reveals a misunderstanding of both the teachings of Langley and the present invention.


The composite film taught by Langley includes one or two outer layers comprising non-woven materials, such as spun-bonded polyolefins, attached in a *non-continuous* pattern, to a microporous thermoplastic film. Langley, col. 5, lines 52-60. The applicant respectfully submits that a spun-bonded polyolefin material is not a "film" and is certainly not the monolithic film layer C required in the present invention. Indeed, as defined in the Specification, the monolithic film layers of the present invention are "solid homogeneous fluid barriers which transport gasses via at least one of the mechanisms of absorption, adsorption, diffusion or desorption." Specification, p. 3, lines 19-22. The "spun-bonded polyolefin" of the Langley fabric, however, has a "web" structure that is not, by definition, "solid and homogenous." Langley, col. 6, lines 3-24. The applicant notes that even Langley recognizes this distinction between films and non-woven materials, claiming a *fabric* comprising a combination of *non-woven layers* of thermoplastic and an inner microporous thermoplastic *film*. Langley, claim 1. The present invention, however, is a multilayer film, comprising at least three coextruded *films*, and does not require any external non-woven materials such as Langley's layers 12 and 16.

Further, Langley recognizes that the manner in which the non-woven layers are attached to the microporous film *must* be non-continuous, to avoid compromising the performance of the microporous film any more than necessary. Langley, col. 5, lines 2-17. The multi-layer film of the present invention, however, is coextruded so that the resulting attachment between the various films is substantially uniform and continuous at their interface. The applicant respectfully contends, therefore, that Langley's composite fabric remains fundamentally different from the claimed multilayer film in several critical aspects. The applicant respectfully submits, therefore, that Langley cannot be fairly said to either teach or suggest the present invention and requests that this rejection be withdrawn.

Having addressed each of the foregoing rejections or objections, it is respectfully submitted that this application is now in condition for allowance. Notice to that effect is respectfully requested. In the event that the Examiner believes that a telephone conference would expedite allowance of the application, the Examiner is invited to telephone the undersigned with any suggestions leading to the allowance of the application.

Respectfully submitted,

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APPENDIX

MARKED VERSION TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 8, first paragraph after BRIEF DESCRIPTION OF THE
DRAWINGS (beginning on line 25):

[Figure 1 illustrates] Figures 1A-1D illustrate the construction of a coextrusion flow plate which can be used in the present invention.

Pages 8-9, carryover paragraph (beginning on line 34 of page 8):

[Figure 4 illustrates] Figures 4A-4C illustrate two options for orienting or stretching a multilayer film in a continuous or sequential method.

Page 21, third full paragraph (beginning on line 10):

As shown in Figure 4, in option 1, the 5-layer film shown at 10, is extruded from the die 1 and passes through a vacuum box 2 where it contacts a primary chill roll 3 and a nip plate out roll 4. The 5-layer material is stretched between the primary chill roll 3 and a secondary chill roll 5. A nip roll 7 keeps the film material against the secondary chill roll 5. The stretching area is shown as 6.

IN THE CLAIMS:

26. (Amended) A multilayer breathable film having the combination of properties of:

- (i) providing a barrier to
microorganisms; and
- (ii) providing a barrier to blood and
bodily fluids;

said breathable film comprising at least a [five-layer] three-layer film having as a minimum the following structure:

C:D:C;

where C comprises an outer monolithic layer containing a hydrophilic polymeric resin capable of absorbing and desorbing moisture and providing a barrier to water and microorganisms, said C layer being substantially free of particulate filler; and,

D comprises a microporous adhesive core layer for bonding said C layers together, wherein said C layer substantially prevents the buildup of particulate filler material on a die during formation of said multilayer breathable film, and wherein said micropores are constructed and arranged to provide the passage of gaseous water but substantially prevent the passage of liquid water.

27. (Amended) A film according to claim 26, wherein said layers have the following volume ratio:

about [1] 2 to about 98% by volume for said D layer; and

about 1 to about 49% by volume for each C layer, the volume % being based on the total volume of said breathable film.

29. (Amended) A film according to claim 26, wherein said layers have the following volume ratio:

about 90 to about 98% by volume for said [A] D layer; and

about 1 to about 5% by volume for each C layer, the volume % being based on the total volume of said breathable film.

32. (NEW) A multilayer breathable film having the combination of properties of:

(i) providing a barrier to microorganisms; and

(ii) providing a barrier to blood and bodily fluids;

said breathable film comprising at least a coextruded three-layer film having as a minimum the structure C:D:C; wherein

C comprises an outer monolithic film layer containing a hydrophilic polymeric resin capable of absorbing and desorbing moisture and providing a barrier to water and microorganisms, said C layer being substantially free of particulate filler; and,

D comprises an adhesive core film layer for bonding said C layers together, the adhesive core film layer including micropores, the micropores being constructed and arranged to permit the passage of gaseous water and to provide a barrier to the passage of liquid water; and, further wherein the adhesive core film layer is bonded to the outer monolithic film layers along an interface, the bonding at the interface being substantially complete and uniform.

IN THE ABSTRACT:

The Abstract is changed as follows:

The present invention comprises [Provided is a method of making] a stretched, multilayer breathable film [having the combination of properties of] that [:

- (i) providing] provides a barrier to microorganisms, [; and
- (ii) providing a barrier to] blood and bodily fluids that is manufactured by [;

said method comprising the steps of:

(a)] simultaneously extruding [at least] a five-layer film [from a die, said five-layer film] having [as] a minimum [the following] structure [:] of

C:A:B:A:C [;] or a three-layer film having a minimum structure of C:D:C in which

[where] B [comprises] is a microporous core layer [containing at least one thermoplastic polymer and at least one particulate filler;] ,

C is [comprises] an outer monolithic layer [containing a hydrophilic polymeric resin capable of absorbing and desorbing moisture and providing a barrier to aqueous fluids and microorganisms, said C layer being substantially free of particulate filler; and] ,

A is [comprises] a microporous adhesive layer for bonding the outer monolithic [said C] layers to the [said] core layer, and D is a microporous adhesive layer, [B, wherein said C layer substantially prevents the buildup of particulate filler material on said die during said extrusion step;] and then

[(b)] stretching the [said] extruded [five-layer] film to [thereby] form micropores in [said] the microporous core layer [and said] or the microporous adhesive layer, [wherein said stretching step is conducted and said microporous core layer and said microporous adhesive layers have been formulated so as to provide] the micropores [which allow] allowing the passage of [gaseous] water vapor but substantially [prevent] preventing the passage of liquid water. [The invention also relates to a multilayer film.]

END OF APPENDIX